



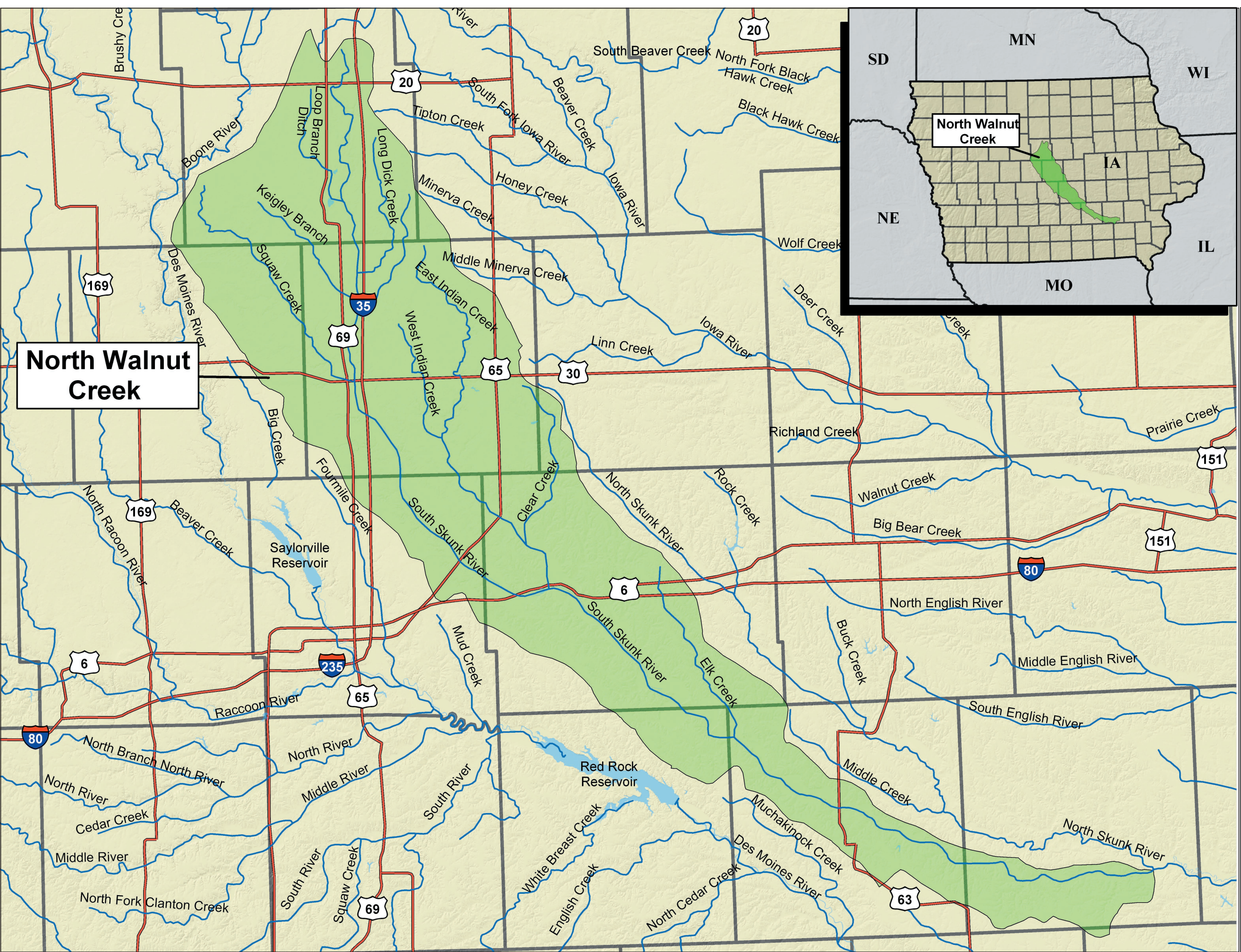
United States Department of Agriculture

Conservation Effects Assessment Project (CEAP)

North Walnut Creek Watershed, Iowa: 2004-2006



An ARS* Benchmark Research Watershed, one of 24 CEAP watershed projects.



CEAP Assessment

Evaluate alternative methods for reducing nitrate concentrations in the surface water of an intensively tile-drained agricultural watershed.

Watershed Description

- Located in the Central Iowa and Minnesota Till Prairies and Des Moines Lobe physiographic regions.
- Intensive row crop production
- 12,700 acres
- 80% cropland
- Only animal production operations are a seasonal beef pasture area and a small horse farm.

Issues: Stream flow from Walnut Creek has been extremely variable during the past 12 years.

Nitrate is the primary pollutant of concern related to agricultural activities, often exceeding the drinking water standard.

*Agricultural Research Service

Approach

Water sampling: Nitrogen, phosphorus, pesticides, sediment

Watershed models: SWAT (Soil and Water Assessment Tool), AnnAGNPS (Annualized Agricultural NonPoint Source)

Water quality monitoring: Walnut Creek stream and county drain data

Communicating Results

A series of peer-reviewed journal publications, conference proceedings, and final report.



Side-dress application of fertilizer.



NRCS soil conservationist, and the farm owner discuss wildlife benefits of a grass filter strip.

Collaborators

- USDA, Natural Resources Conservation Service
- USDA, Agricultural Research Service
- Texas institute for Applied Environmental Research

Contacts

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ARS technician collects a water sample from the Walnut Creek watershed in Ames, Iowa. Samples are collected weekly from this area and surrounding watersheds to study the effects farming practices have on water quality.

Timeline

2003 Initial funding	2004 August CEAP bibliographies	2005 May Wetlands peer review	July Wildlife literature review (program-based)	October Cropland literature reviews Wildlife literature review (practice-based) Wildlife Work Plan	November Wetlands Work Plan	December Draft findings—Prairie Pothole region 1st ARS Benchmark Watersheds progress report
2006 February Preliminary habitat quality models— Prairie Potholes wetland region	March Preliminary National Assessment Report	December 2nd ARS Benchmark Watersheds progress report	2007 Fall National Assessment Final Report	December 3rd ARS Benchmark Watersheds progress report	2008 December 4th ARS Benchmark Watersheds progress report	